

# DXI

## DMX512

# Optical Isolator

D Series



**ELM Video  
Technology, Inc.**

*"Innovative Midi and DMX Products"*



# **IMPORTANT SAFEGUARDS**

Read and follow all instructions BEFORE installing or using this product.

Do not attach any product or accessories that the manufacturer does not recommend.

Keep in a well ventilated environment.

Never use or store the unit in places that are:

- Subject to temperature extremes (direct sunlight, in an enclosed vehicle, near a heating duct)
- Wet, damp and humid areas
- Dusty
- Subject to high levels of vibration

Use proper Power Sources. This product should be operated only from the type of power source indicated on the marking label or as is described in this manual.

Route power cord safely. Don't allow twist's, bend the power cord, or place heavy objects on it.

Ground your equipment whenever possible.

Do not attempt to service this product unless noted otherwise.

If the unit stops working for any reason, unplug the power and other connections until repaired.

This unit should be used only with a rack or chassis that is recommended by the manufacturer.

Unplug the device when not in use.

Keep away from small children.

## **DXI OVERVIEW**

The DXI is a DMX512 Optically Isolated through connector designed to protect a DMX512 lighting board or any DMX512 generating device from (high voltage) dimmers, fixtures, and any equipment on the daisy chain or DMX512 control line. If a short or malfunction occurs on the DMX512 control cable the DXI optically isolates the console (or DMX512 generating device) from the potential hazard, thus the DXI would be damaged and not the console.

Because the DXI has an optical isolation circuit on the data input, a 3V 25mA line load is required, (which is apx ½ of the daisy chain line load). This input does not conform to the DMX512 standards, as long as the DXI is used directly out of the console and kept as close as possible (preferably within a few feet), this should not be an issue and should work with most boards.

*For more information about DMX512 visit - <http://www.usitt.org/DMX512.aspx>*

## **CONNECTION**

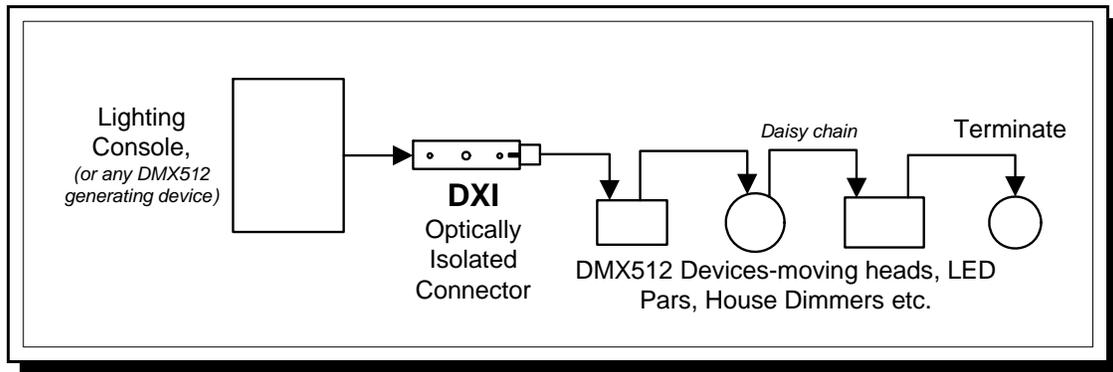
Connect the power supply into the power input connector, the red LED will illuminate. Insure the power supply is placed in a safe location, if power is lost there will not be any data output.

Connect a DXI to the DMX512 source to the male side of the connector, if data is present the yellow LED will illuminate. Note that the input circuit is isolated from the power and output circuit, the yellow LED will illuminate even if power is not supplied. Connect the female side of the connector to the daisy chain or receiving equipment.

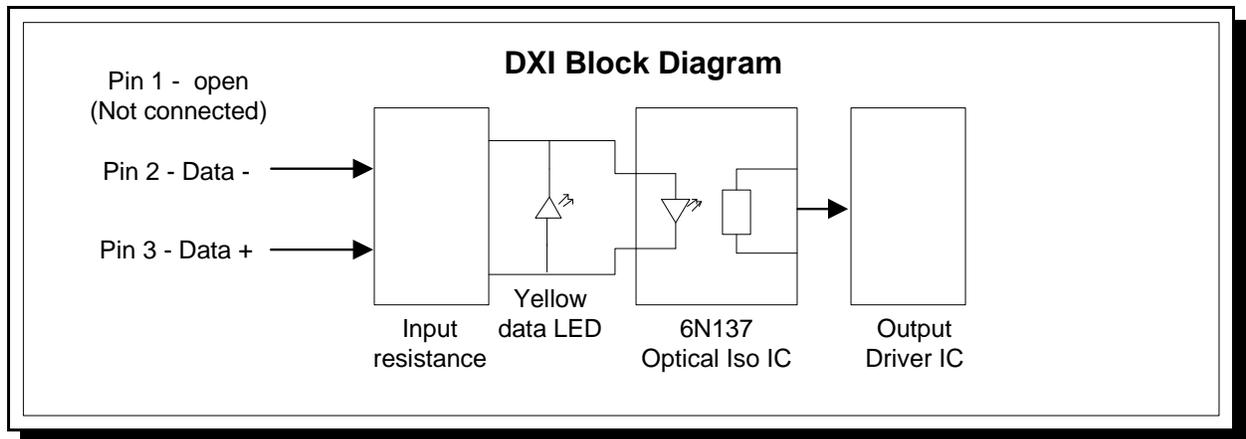
## **OPERATION**

Once connected there is no user adjustments to be made. The red LED indicates that power is present, The yellow LED indicates that data (or voltage) is active on the input (XLR male pins). Operate your lighting board and equipment as normal.

## CONFIGURATION EXAMPLE



## PCB BLOCK DIAGRAM



**INPUT:** The input stage has resistance in series and parallel to the 6N137 IC (*Optically isolated input IC*). The front panel LED (*data indicator LED*) is in parallel to the input of the 6N137 IC.

**OUTPUT:** The output of the 6N137 IC, sources the output IC that supplies data to the output connector. Pins 1 of each of the output connector is connected to the power supply common.

## TROUBLESHOOTING

PROBLEM	CHECK
<ul style="list-style-type: none"> <li>• Red LED is not lit</li> </ul>	<ul style="list-style-type: none"> <li>• insure the power supply is plugged in and the outlet has power</li> <li>• possible power supply or unit failure</li> </ul>
<ul style="list-style-type: none"> <li>• Yellow LED is not lit</li> </ul>	<ul style="list-style-type: none"> <li>• verify that valid DMX512 data is active at the input</li> </ul>
<ul style="list-style-type: none"> <li>• Yellow LED seems to change brightness or blinks</li> </ul>	<ul style="list-style-type: none"> <li>• the yellow LED is in parallel to the input, (affected by channel levels and packet size), brightness variation is normal</li> </ul>

## SPECIFICATIONS

POWER INPUT: 100 ~ 240 50 ~ 60Hz, 0.3A  
 POWER USAGE: 5VDC, 50mA  
 DATA TYPE: DMX512 (250Khz)  
 DATA INPUT: DMX512 - 5 (or 3) pin male XLR, *Pin 1 - (Shield) Not connected, Pin 2 Data -, Pin 3 Data +*  
 ISOLATION: Optical Isolation IC# 6N137  
 DATA OUTPUT: DMX512 output - 5 (or 3) pin female XLR, *Pin 1 - Power supply common, Pin 2 Data -, Pin 3 Data +*  
 DIMENSIONS: 4" x .77" (excluding female release tab)